



Reflections on the Emergency Remote Teaching in the Pandemic: Experiences of Pre-Service Teachers

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ABSTRACT

The aim of the study is to find out the experiences of pre-service teachers in Ondokuz Mayıs University during the emergency remote teaching process. The study was designed as a case study. Data was collected using an "Evaluation Form" which was developed by the researcher. This form is a survey which consisted of both open-ended and closed-ended questions. Additionally, observation notes and course records were used to verify the survey data. Quantitative data was analyzed with descriptive statistics including frequency and percentage. Qualitative data was analyzed with content analysis. Participants were 60 pre-service teachers attending Computer and Instructional Technology Teacher Education Program offered by the Faculty of Education. Based on the results, organization, methods, competency level of the instructor, regular announcements/information, qualified asynchronous content, asynchronous course activities, continuous communication and effective live courses were the issues that support the emergency remote teaching. On the other hand, deficiency of face-to-face interaction, technical problems, deficiency of motivation, homework and courseload were the issues that obstruct the emergency remote teaching. Finally, although the students mentioned that they learned effectively during the emergency remote teaching, they preferred to continue with face-to-face education. Moreover, they preferred to continue with distance education only for some of the courses.

Keywords: Distance education, emergency remote teaching, online learning environments

Pandemi Dönemi Acil Uzaktan Eğitim Sürecinden Yansımalar: Bilişim Teknolojileri Aday Öğretmenlerinin Deneyimleri

Öz

Bu çalışmada 2019-2020 bahar döneminde Ondokuz Mayıs Üniversitesi Eğitim Fakültesinde yaşanan acil uzaktan eğitime geçiş sürecinin öğrenci görüşleri çerçevesinde değerlendirilmesi amaçlanmıştır. Çalışmanın birincil verileri araştırmacı tarafından geliştirilmiş "Süreç Değerlendirme Formu" ile toplanmıştır. Bu form kapalı uçlu ve açık uçlu sorulardan oluşmaktadır. Elde edilen nicel verilerin analizinde yüzde ve frekans gibi tanımlayıcı istatistikler kullanılırken nitel veriler içerik analizi ile analiz edilmiştir. Ayrıca gözlem notları ve ders kayıtları formdan elde edilen verilerin açıklanmasında kullanılmıştır. Çalışmanın örneklemini Ondokuz Mayıs Üniversitesi Eğitim Fakültesinde Bilgisayar ve Öğretim Teknolojileri Eğitimi bölümünde öğrenimlerine devam eden 60 bilişim teknolojileri aday öğretmeninden oluşmaktadır. Araştırma sonucuna göre düzen, kullanılan yöntemler, öğretim elemanının yetkinliği, düzenli bilgilendirme ve duyurular, kaliteli asenkron içerik, ders dışı aktiviteler, sürekli iletişim ve etkili canlı dersler acil uzaktan eğitim sürecine katkı sağlayan hususlar olarak ifade edilmiştir. Öte yandan yüz yüze etkileşim eksikliği, teknik sorunlar, motivasyon eksikliği, ödevler ve oluşan iş yükü acil uzaktan eğitim sürecinde öğrencileri zorlayan hususlar olarak öne çıkmıştır. Son olarak, öğrencilerin acil uzaktan eğitim sürecinden katkı sağlamalarına rağmen geleceğe yönelik tercihlerini yüz yüze eğitimden yana kullandıkları, ancak bazı derslerin çevrimiçi verilmesini de destekledikleri görülmüştür.

Anahtar kelimeler: Uzaktan eğitim, acil uzaktan eğitim, çevrimiçi öğrenme ortamı.

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1 | INTRODUCTION

Developing technologies and life-long learning increase the interest to distance education and being an online learner (Alsabawy, Cater-Steel, & Soor, 2016; Islam, 2016; Rizvi et al., 2019). Especially, the COVID-19 pandemic carried distance education in the center of education world. Based on the International Association of Universities (IAU) report, after the COVID-19 pandemic was declared in March 2020 in the world, 85% of Europe, 72% of America, 60% of Asia and Pacific, and 29% of Africa transferred face-to-face teaching and learning activities over distance education technologies. Furthermore, in some of the regions face-to-face teaching and learning activities was suspended to develop alternative solutions. Finally, 24% of Africa, 3% of America, Asia and Pacific and Europe cancelled teaching and learning activities (IAU, 2020).

In Turkey similarly, when the first COVID-19 case existed in the country in March 2020, to limit the COVID-19 dispersion face-to-face teaching was carried out in online learning environments with the opportunities provided by distance education tools. In universities, after the decision to suspend face-to-face teaching for 3 weeks, it was decided to continue teaching with distance education opportunities. During this period, Council of Higher Education (COHE) developed a platform called “COHE Courses Platform” in which universities could share digital course contents. The platform facilitated the share of existing digital course contents in the universities as an open courseware (COHE, 2020a). Additionally, COHE prepared a guide for universities with the title “The New Normalization in the Global Pandemic” in which alternative ways of distance teaching were presented (COHE, 2020b). Universities transformed their face-to-face education to distance with their existing opportunities, facilities, and effort. Moreover, existing distance education infrastructure, experience, competencies of the instructors, and competencies of the support personnel affected the way how universities adapted to distance education during the pandemic. Universities who were using educational technologies before the COVID-19 pandemic, had a comparative advantage over those who did not use technologies in their education system (ILO, 2020).

In the literature, distance education was defined as time and place independent learning activities (Moore, 1989; Moore & Kearsley, 1996). During the COVID-19 pandemic, by the quick transformation of face-to-face teaching to distance teaching, a new discussion point emerged about whether the emergency remote teaching differs from the usual distance education concept. During the pandemic, since universities moved their face-to-face courses over distance education environments in a short time, some points of planned and structured distance education were missing (Bilgiç, 2021). It was mentioned that a structured and well-planned online learning experience is different than distance courses that developed as a quick answer to an unplanned crisis (Hodges et al., 2020). In addition to this, a new concept emerged into distance education literature called “Emergency Remote Teaching” (Bozkurt et al., 2020; Hodges et al., 2020; Shisley, 2020). In the emergency remote teaching that occurs in the pandemic, students who could not come to the physical classroom environment were put into an alternative and unplanned teaching environment (Shisley, 2020). Thus, although the emergency remote teaching in the pandemic was a way of teaching online, and it had some common points with distance education, it could not be evaluated in the same way (Bozkurt & Sharma, 2020). The main aim of distance education is to provide an alternative and flexible way of learning, but in the pandemic the emergency remote teaching was an obligation for both instructors and students. Students participated to the emergency remote teaching as obligatory, and instructors also had to support the teaching with alternative ways and strategies. Another important point is that support personnel who provide one-to-one assistance in the existing distance education programs, could not provide the same level of assistance during the pandemic (Hodges et al., 2020). However, for instructors to transfer their face-to-face experiences to distance education, it is important to receive the right and needed support (Bilgiç & Tüzün, 2020; Hodges et al., 2020). Therefore, it is important to understand that the emergency remote teaching was different from a structured and planned distance education, and to evaluate the emergency remote teaching as a new concept in the post-pandemic (Bozkurt & Sharma, 2020; Hodges et al., 2020). Success in the distance education is associated with planning and qualified thinking process (Palloff & Pratt, 2007). In the pandemic, universities did not have enough time to plan the distance education and this situation caused differences based on universities’ readiness to distance education. In the post-pandemic process, while the negative experiences of the pandemic were evaluated, it should be considered that the emergency remote teaching was different than a structured and well-planned distance education experience.

Many studies and reports were published to evaluate the emergency remote teaching process. In the report of the International Association of Universities (IAU) the transition process was presented with three interconnected dimensions: (1) technical infrastructure and accessibility, (2) distance education competencies and pedagogies, and (3) the field of the study (IAU, 2020). These dimensions were affected by different challenges and advantages in different conditions. In the report, it was mentioned that in low- and middle- income countries, students have much more problems to access the Internet to follow the distance courses. On the other hand, since a different pedagogy is required in distance education, the readiness level of teachers might be a challenge for universities. Furthermore, different fields of studies necessitate different needs such as laboratory practices which might be a challenge for universities. Huang et al. (2020) presented “Disrupted Classes, Undisrupted Learning” movement, which developed based on the Chinese experience during the pandemic to maintain undisrupted learning and to facilitate flexible learning, in the handbook that they prepared. In the handbook, the strategy that followed to provide hundreds of millions of students participating in flexible online learning environments, were presented. Based on the strategy seven core elements of effective online education were emerged: (1) reliable network infrastructure, (2) friendly learning tools, (3) interactive suitable digital learning resources, (4) effective learning methods, (5) effective methods to organize instruction, (6) instant support services, and (7) the partnership between governments, enterprises, and schools. Ali (2020) investigated how teaching and learning were supported during the COVID-19 pandemic, in the meta-analysis study. Resources, readiness of the personnel, reliance, access status of the students, and motivation were mentioned as the important components to integrate technology into learning environments. Moreover, in the study, the importance of technology integration into the teaching and learning except an obligation like pandemic, was emphasized. Almaiah et al. (2020) explored the critical challenges and factors that influence the e-learning systems during the COVID-19 pandemic. Moreover, some of the studies focused on mental problems that students faced during the pandemic (Islam et al., 2020; Son et al., 2020). In these studies, it was mentioned that many of the students experienced depression and anxiety disorders during the pandemic. On the other hand, it was stated that academic success of the students might be affected with mental problems.

In Turkey, many studies were done in which the experiences of higher education institutions were examined. Kahraman (2020) explored how the applied courses was conducted with distance education during the COVID-19 pandemic. In this study, students stated that it was not difficult to learn 3-dimensional design tools during the emergency remote teaching period. On the other hand, it was seen that difficulty in model making was higher. According to the results of the study, instructors mentioned that it was hard to observe physical circumstances like how students hold a pencil in model making or drawing lessons. Finally, it was stated that due to the lockdown during the COVID-19 pandemic, students had difficulties to supply materials in model making. Akgün (2020) stated that based on the study conducted with students who were attending to accounting course, the emergency remote teaching minimized the cost of photocopying, printing, and transportation of female students as advantages. On the other hand, male students presented the disadvantages of distance courses during the pandemic as deficiency of face-to-face on-site lectures on whiteboard. Ak et al. (2021) examined the effect of distance education trainer program on self-efficacy and benefit perceptions of the instructors towards distance education. As a result of the study, the distance education trainer program had a significant effect on self-efficacy and benefit perceptions of the instructors towards distance education. Keskin and Özer-Kaya (2020) assessed the feedback of students who continue their education with the emergency remote teaching courses. In this study, most of the participants of the study reported that the emergency remote teaching was not as effective as face-to-face education. Moreover, not communicating comfortably with the instructors and technical problems during the courses were mentioned as difficulties. Karadağ and Yücel (2020) conducted a study which aimed to identify problems encountered during the emergency remote teaching process. The data was collected from 17.939 students in 163 universities with a survey. In this study, satisfaction of the students was explored related to Council of Higher Education, university and faculty management, digital content/instructional materials, synchronous/live courses, and technical infrastructure. Based on the results of the study, highest satisfaction score was for Council of Higher Education, and lowest scores were for university and faculty management, and for digital content/instructional materials. Mor-Dirlik et al. (2021) adapted the Coronavirus Anxiety Scale (CAS) into Turkish in the context of higher education. The adapted scale was found highly reliable and valid. Based on the results of the study, psychological and behavioral consequences of the spread of the COVID-19 might last longer. In addition to these, in a study in which reflections of the COVID-19 pandemic to the world of education were presented, it was emphasized that radical

and strategic plans should be developed to provide continuity in education in the new world of education (Bozkurt, 2020). In another study, the danger of the digital divide that emerged during the COVID-19 pandemic was evaluated and recommendations were presented (Sezgin & Fırat, 2020). Erkut (2020) discussed the effects of the COVID-19 pandemic to the world of higher education and developed suggestions to renew online learning environments. This study also stated that the pandemic created an opportunity for higher education institutions to develop and renew themselves.

In the literature about COVID-19 pandemic, many of the studies focused on satisfaction of the students or problems/challenges which were evaluated through survey studies. However, there are not enough studies in which students evaluated the components that contribute to the emergency remote teaching process, and the challenges that result with negative experiences with open-ended questions, and also together with the instructors' observation. Moreover, experiences provide a preliminary data to make decisions for new circumstances. Therefore, this study aimed to find out the experiences of pre-service teachers during the emergency remote teaching process, and to investigate how the students' current experiences of the emergency remote teaching process affected their views about distance education.

RESEARCH QUESTIONS

The purpose of this study is to find out the experiences of pre-service teachers who are the students of Computer and Instructional Technology Teacher Education Program offered by the Faculty of Education in Ondokuz Mayıs University. To accomplish the aim of this study the following questions will be addressed:

1. Which components/issues support the emergency remote teaching process?
2. Which components/issues obstruct the emergency remote teaching process?
3. What is the comparative view of the students (pre-service teachers) on pre-pandemic face-to-face teaching and the emergency remote teaching experiences?
4. What are the preferences and views of the students (pre-service teachers) about distance education after their emergency remote teaching experiences?

2 | METHOD

RESEARCH DESIGN

The study was designed as a case study in which a fact or an experience was deeply examined (Yin, 2009). Case studies differ from other research models with the data including interviews, documents, recordings, or observation notes rather than just a questionnaire. In this study, the primary data was collected through a survey in which there were both open-ended and closed-ended questions. Moreover, the researcher involved to all courses of all participants as the instructor. Observation notes and course records were obtained by the researcher and used to verify the survey data. Thus, the emergency remote teaching experiences of the students were evaluated based on the survey data and verified with the data obtained by the researcher such as observation notes and recordings. Furthermore, the quantitative data gathered from the close-ended questions in the survey was also supported with the qualitative data gathered from the open-ended questions.

PARTICIPANTS AND CONTEXT

When the COVID-19 pandemic worsened in Turkey, the Ondokuz Mayıs University paused face-to-face teaching at first. Then, the Council of Higher Education published an official declaration in which universities encouraged to transfer face-to-face teaching over distance education technologies. Thus, participants of the study attended 5 weeks of the 14-week in 2019/2020 spring semester with face-to-face teaching, and then attended the remaining 9 weeks of the semester with distance education called the emergency remote teaching. The university has a Distance Education Center which has been delivering distance education programs since 2009. The Distance Education Center are delivering 28 programs including 9 associate degree program, 2 bachelor's degree program, 10 master's degree program and 7 certificate program (Ondokuz Mayıs University, 2021). Since the University has 51871 students and 7360 courses delivered face-to-face before the pandemic (Ondokuz Mayıs University, 2020), it was hard to deliver these courses over existing distance education services of the Distance Education

Center during the emergency remote teaching. Thus, all courses transferred to Google Classroom which provides all necessary services to users, and live courses were done on the Meet Application of Google.

The study was focused on 60 pre-service teachers who were attending Computer and Instructional Technology Teacher Education Program offered by the Faculty of Education in the Ondokuz Mayıs University. Before the emergency remote teaching in the first 5 weeks of the semester, the participants were using a Learning Management System (LMS) to follow shared course materials, and homework. Also, LMS was used to upload homework files by the students. During the pandemic, participants attended weekly live courses. Additionally, all course materials, announcements and homework/project files were shared in the virtual course area created on Google Classroom. As it is seen in Table 1, 45% of the participants were female and 55% of the participants were male. Moreover, 13.33% of the participants were 1st grade (year) students, 18.33% of the participants were 2nd grade students, 25% of the participants were 3rd grade students, and 43.3% of the participants were 4th grade students.

Table 1. Demographic Profiles of Participants

	Number of students (n)	Percentages (%)
Gender		
Female	27	45
Male	33	55
Total	60	100
Grade		
1	8	13.33
2	11	18.33
3	15	25
4	26	43.33
Total	60	100

DATA COLLECTION

Data was collected with multiple methods including survey, observation notes of the researcher and course records (including live courses and virtual class area). Survey data was the primary data of the study. Observation notes and course records were used to verify the survey data. Survey called “2019/2020 Spring Semester Evaluation Form” was developed by the researcher. Survey has 4 sub-sections with 27 questions. In the first sub-section, 5-likert 4 questions were asked to investigate the emergency remote teaching experiences of the participants. In the second sub-section, 5-likert 12 questions were asked to compare and evaluate the first 5 weeks of the 2019/2020 semester which delivered with face-to-face teaching and remaining 9 weeks which delivered with distance education. In the third sub-section, 5-likert 5 questions were asked to investigate the attitude and views of students about distance education after they experienced the emergency remote teaching process. Finally in the fourth sub-section, 6 open-ended questions were asked to analyze the experiences and views of students in a more detailed way.

Content validity was used to investigate the validity of the data collection tool (survey). Survey called “2019/2020 Spring Semester Evaluation Form” forwarded to 2 academics by e-mail to receive feedback whether the questions were compatible with the research questions. After the feedback received, it was seen that 90% of the survey questions were compatible with the aim of research. Based on the feedback, in the third sub-section 1 question was removed, and in the fourth sub-section 1 question was deleted and 1 question was revised.

Data was collected with the online form. Survey form called “2019/2020 Spring Semester Evaluation Form” which was developed by the researcher transferred onto Google Forms. The online form was shared with the students in the virtual class of the course. Students attended to survey voluntarily. The researcher involved to both face-to-face and online courses with the students. The researcher generated the recordings (the live course records) and observation notes during the emergency remote teaching process. Observation notes were obtained weekly by the researcher including the positive and negative points of the course process.

DATA ANALYSIS

Quantitative and qualitative methods were used to analyze the data. Quantitative data derived from the first three sub-sections of the survey was analyzed with descriptive statistics including frequency and percentage. Qualitative data derived from the final section of the survey was analyzed with content analysis. The aim of content analysis is to reveal the categories and meaningful relationships between these categories through conceptual coding which are not directly visible in the data set (Yıldırım & Şimşek, 2011). At first, answers to final section of the survey were transferred into MS Word document. Then, preliminary coding was conducted by marking possible codes while the answers to open-ended questions were read. The researcher conducted the coding process together with an academic to ensure the reliability of the results. After sufficient amount of codes was revealed with 100% agreement of the researchers, the codes were grouped under categories. After the agreement of the researchers about the categories, the conceptual categories were finalized. Finally, observation notes and course records were used to evaluate the survey data which was the primary data of the study.

RESEARCH ETHICS

Ethical principles and guidelines were followed during all phases of the study. Participants attended to study voluntarily. The participants informed about the aim of the study. The data of the participants stored with anonymous identities. Furthermore, ethical permission was obtained from the Ethics Committee of Social Sciences and Humanities of Ondokuz Mayıs University (date: 23 September 2020 and number: 2020/554).

3 | FINDINGS

This section presents the research findings within the framework of the research questions.

ISSUES THAT SUPPORT THE EMERGENCY REMOTE TEACHING PROCESS

The issues supporting the students' emergency remote teaching process were evaluated with the data obtained from one closed-ended and one open-ended question. First, students were expected to choose the three most important issues that contributed the most to the emergency remote teaching process. Their answers are presented in Figure 1.

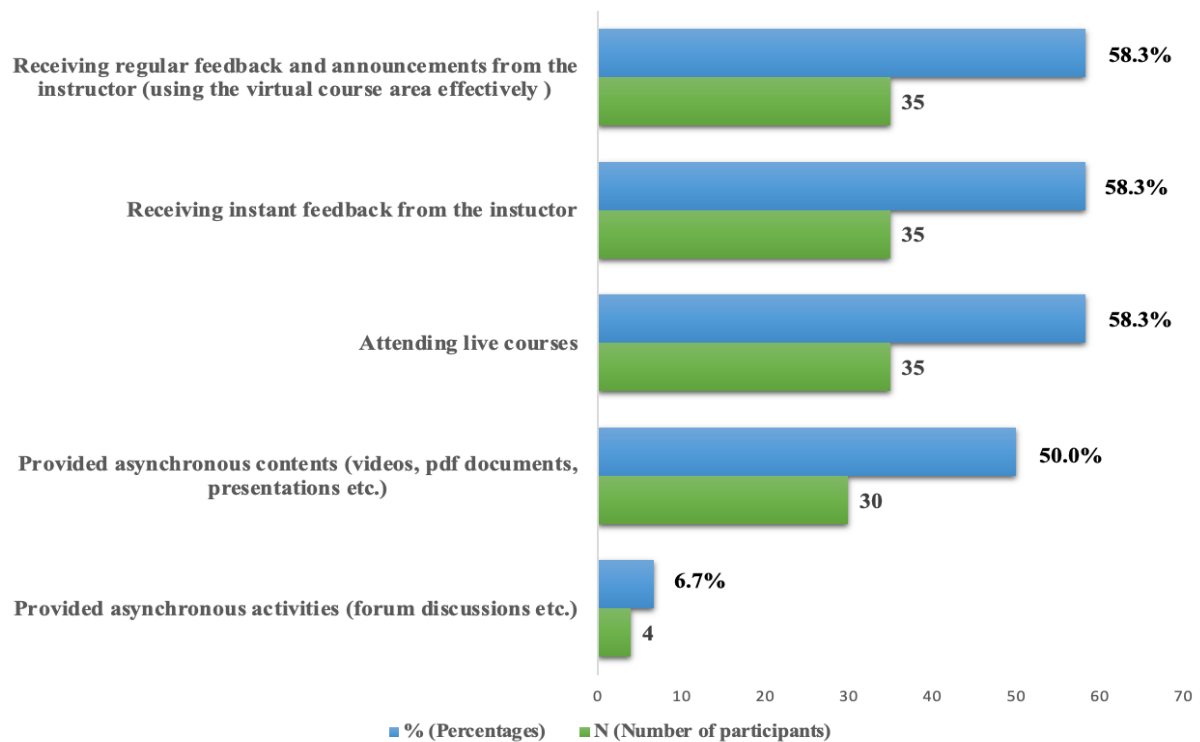


Figure 1. Issues that Support the Emergency Remote Teaching Process

Figure 1 shows that students mentioned receiving regular feedback and announcements from the instructor (58.3%), receiving instant feedback from the instructor (58.3%), and attending live courses (58.3%) as the most important issues that supported the emergency remote teaching process. Furthermore, 50% of the participants reported that the asynchronous contents provided were among the issues that supported the emergency remote teaching process (See Figure 1).

Additionally, students were asked to write down positive aspects of the courses that they attended in the emergency remote teaching process in their own words. To this end, the student answers were analyzed by content analysis, and the positive components in the emergency remote teaching process were explained within the framework of 67 unique codes and 15 categories consisting of these codes. These categories include the following: organization, methods, regular announcement and information, supportive activities after live course sessions, effective live course sessions, continuous communication, instant feedback, competency level of the instructor, similarity to face-to-face course, the attitude of the instructor, effective use of the virtual class area, the quality of the content, number of students, flexibility, and clarity (See Table 2).

Table 2. Issues that Support The Emergency Remote Teaching Process

Categories	Coding	Frequency (f)
Organization	Regular lectures every week	2
	Being clear and planned	1
	Clear announcement of assignment deadlines	1
	Timely start of the live course sessions	2
	Announcement of assignments well before deadlines	1
	Following the course plan	1
	Systematic course teaching	1
	Keeping track of the syllabus	1
	Teaching the courses without interruption	1
	Sharing resources	1
	Uploading live courses	1
	Regular meetings of the instructor with the project groups	1
	A clear progression	1
Methods	Ways of presentation	2
	Effective lecturing	2
	Easy to take notes	1
	Explanation of the presentation one by one	1
	Course management	5
	Group work	1
	Screen sharing	3
	Exactly the same as the face-to-face course	1
Regular Announcement/Information	Timely in-class information	2
	Information at the specified parts	1
	The adequate level of announcements	5
	Regular and continuous announcements	2
	Information about the course flow before the lesson	1
	Announcement of live lessons	1
Timely information of necessary disclosures	1	
Supportive Activities After Live Course Sessions	Giving assignment	5
	Reinforcement of the course with additional activities	3
	Creating supportive course activities	1
	Active participation in assignments	2
	Sufficient number of assignments	1
	Excessive and detailed assignments and activities	2
Continual sharing of assignments and materials related to the course	1	
Effective Live Course Sessions	Quality of live courses	4
	Explaining everything in live courses	1
	Interactive course teaching	2
	Effective live course sessions	2
	Screen sharing	3
	The adequate sound level of the instructor	1
Clear tone of voice of the instructor	1	
Continuous Communication	Understanding that the instructor is following the process	1
	Keeping the student on track	1
	Regular and constant communication of the instructor	1
	A fast and detailed response to messages	2

Instant Feedbacks	Instant feedbacks	9
	Chance to receive positive and negative feedback on what was taught in the course	1
	Regular meetings of the instructor with the project groups	1
	Giving feedback	4
Competency Level of the Instructor	Technologically competent instructors	1
	The dominance of remote education of the instructor	1
	Competency level of the instructor	1
Similarity to Face-to-Face Course	Similar to face-to-face teaching	1
	Same as a face-to-face course	4
The attitude of the Instructor	Lecturing with dedication	1
	Optimistic and positive approach	1
	The interest level of the instructor	4
Effective Use of the Virtual Class Area	Sharing course-related instructions in the virtual class area	1
	Active use of the virtual class area	1
	Active use of the class board	4
The Quality of the Content	Quality of content offered	6
	Preparation of slides suitable for the topic	2
Number of Students	A large number of students attending classes	1
Flexibility	The flexibility of assignment deadlines	1
Clarity	Clarity of the instructions for the assignments	2
	Explanatory statements	1

In terms of positive issues supporting the process, code density distribution suggest that the codes are mainly focused on the organization (13 codes), method (8 codes), regular announcement/information (7 codes), supportive activities after live course sessions (7 codes) and effective live course sessions (7 codes).

Firstly, the codes indicate students expect a systematic and regular course in the distance education process. The fact that the courses are taught weekly, they start on time, the assignment deadlines are shared clearly, the process proceeds in a clear, understandable, and planned manner reflect positively on the emergency remote teaching process for the students. Students also noted that the active and regular use of the board in the course area is a positive feature. They emphasized the positive aspects of the organization of the course they attended during the emergency remote teaching process with the following examples:

“Each week, live course sessions were done regularly, and the assignment was given ...” (Student 3)

“Live course sessions and information were sufficient. Everything was clear and planned; the virtual class area was used clearly.” (Student 5)

“First of all, I think that announcements of the live class sessions, informing about course issues, clear explanation of the assignment are positive issues that distinguish this course from others.” (Student 21)

“One of the distinguishing aspects of the course is that the instructor used the virtual area actively.” (Student 4)

“Each week, live course sessions were done regularly, and sessions started on time.” (Student 34)

“... Informing the students about the planning of the live course session and then following consistency with the shared plan in the live course sessions was an important point.” (Student 1)

Besides, the students presented the instructor’s use of tools such as screen sharing in the management of the live class sessions, the preparation of presentations suiting to course content, and detailed lectures in live lessons, among the methods that contributed positively to the emergency remote teaching process. The positive contribution of the methods used by the instructor was expressed as in the following example:

“In this live course, the instructor shared his computer screen and prepared a slide presentation suitable for our topic. It was useful for us to explain the presentation one by one. If we had just given the presentation and were expected to understand, we would have had a bit of a hard time. There was no such explanation in other courses.” (Student 1)

On the other hand, students stated that the instructor’s mastery of the subject, correct guidance, approach to students, and regular feedback and interviews in the process were among the motivating issues for them. One of

the students expressed that the instructor's awareness of being involved in the process is an encouraging issue in terms of participation in the course as follows:

"The instructor's directions, approach, and mastery of the subject are perfect. Their feedback is very accurate and fast. His meetings with the project groups before and after the course are motivating. You understand that he is following the process, and you always keep your eyes open." (Student 42)

Students also asserted that when they were informed about the process in detail, their anxiety decreased, and the live course sessions progressed better:

"Our assignments were clearly explained to us. There was fast feedback. Our instructor explained everything in the live course. Our anxiety about how to do our assignment has decreased. In general, this course was more understandable than other courses." (Student 37)

Another issue that supported the emergency remote teaching is the assignment. Some of the students pointed to the assignments' role to ensure active participation in the course process and following the activities. They underlined that sharing assignments and materials related to the course constantly encourages them to stay active towards the course as follows:

"Given assignments ensured our active participation. The content presented was useful and sufficient. The teaching instructor was in regular and constant communication with us." (Student 3)

"We were more active in this course; we were constantly given assignment-related material, which kept us motivated about the course." (Student 42)

As a result, in the emergency remote teaching process of the students, they emphasized meeting their needs in subjects such as organization, continuous communication, feeling that the instructor is in the system with them, communicating, getting regular feedback from the instructor, being supported with alternative activities and materials, participating in live course sessions, and experiencing a live class learning similar to the face-to-face courses.

ISSUES THAT OBSTRUCT OR CHALLENGE THE EMERGENCY REMOTE TEACHING PROCESS

The issues that obstruct or challenge the emergency remote teaching process of the students were evaluated with the data obtained from one closed-ended and one open-ended question. Firstly, students were expected to choose the three most important issues that obstruct the emergency remote teaching process. Their answers are shown in Figure 2.

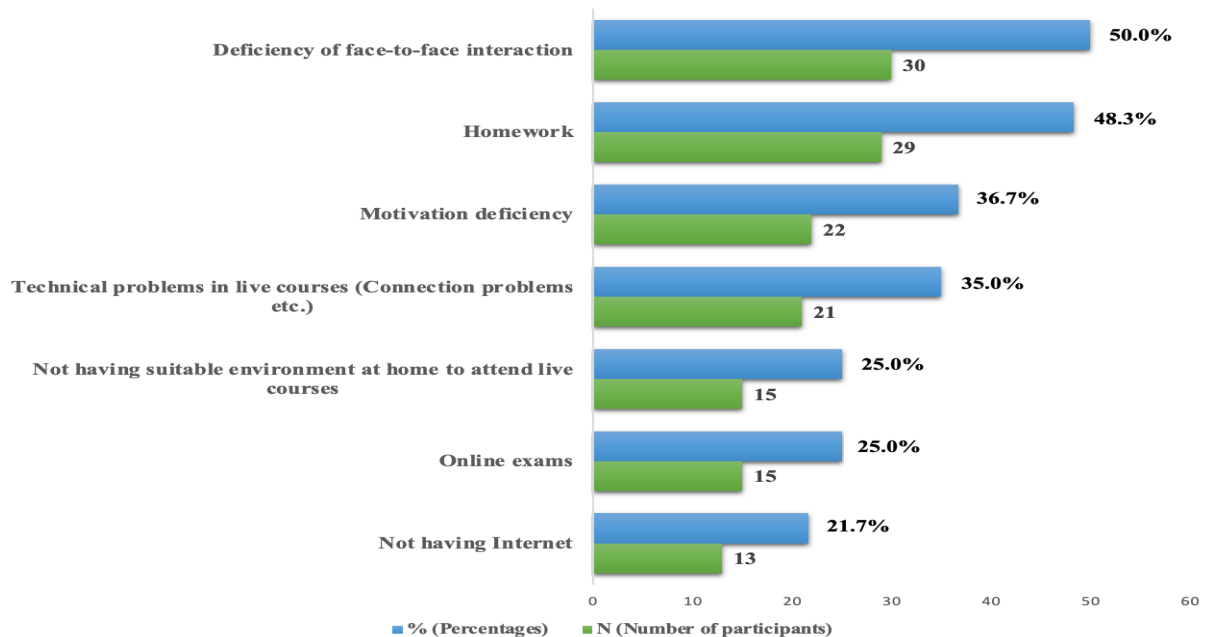


Figure 2. Issues that Obstruct or Challenge the Emergency Remote Teaching Process

Students, respectively, stated the deficiency of face-to-face interaction (50.0%), homework (48.3%), and motivation deficiency (36.7%) as the issues that negatively affect the emergency remote teaching process. Additionally, 35% of the students stated the technical problems in live courses, 25% expressed the online exams, and 25% stated not having a suitable environment at home to attend live courses among the obstructing components of the emergency remote teaching (See Figure 2). While the students focused on interaction in the issues that support the emergency remote education, they also highlighted the deficiency of face-to-face interaction in the obstructing issues. Moreover, sudden changes in the pandemic process and concerns about health problems negatively affected their motivation.

Furthermore, students were asked to write down the negative features of the courses they attended during the emergency remote teaching process. According to the findings, the issues that obstruct the emergency remote teaching process were explained within the framework of 14 codes. These 14 codes were grouped under seven conceptual categories: (1) Technical problems, (2) Interaction constraints, (3) Courseload, (4) Online exams, (5) Deficiency of information, (6) Personal limitations, and (7) Group work (See Table 3).

Table 3. Issues Obstructing Students in the Emergency Remote Teaching Process

Categories	Coding	Frequency (f)
Technical Problems	Internet connection problem	1
	Voice problems in live course sessions	1
Interaction Constraints	Lack of camera in live course sessions	2
	Limited interaction	1
Courseload	Too many assignments	7
	Too many additional activities	1
	Challenging and difficult assignments	3
	Short deadlines for assignments	1
Online Exams	Online exam	2
Deficiency of Information	Not sharing recorded lecture videos after the course	1
	Late notification of the course time	1
	Insufficient instructions for some assignments	1
Personal Limitations	Inability to access the internet	1
Group Work	Final examination as a group assignment	1

In the category of technical problems, students expressed their difficulties in accessing the internet and the sound problems that occurred in live class sessions. The students emphasized that they had difficulty in constantly providing internet access to fulfill the requirements during the course and access the live course sessions:

“Due to the constant demand for material, it was difficult for me not to always have access to lectures and internet access.” (Student 51)

In the category of interaction constraints, the students talked about the lack of interaction and the lack of cameras in live course sessions. While they reported that not turning on the camera by the instructor as a negative situation, on the other hand, they emphasized that this situation did not have a negative effect on following the lesson due to the instructor’s use of understandable language and screen sharing:

“... I listen to my instructor’s gestures and mimics, giving importance to them. The camera was not turned on in the live course sessions, but the lesson was still explained in an understandable language, so I do not see this as a significant negative.” (Student 3)

“It’s just that the webcam wasn’t on. But since it is screen sharing, this has not had a negative effect on me.” (Student 5)

While some students listed homework assignments in the emergency remote teaching process as one of the positive issues, the others stated that the course load was challenging, mainly because the homework was too much and difficult. A student who reported that the homework is challenging among the obstructing features, however, claimed that getting feedback from the assignments and rearranging them together contributed positively:

“I have to keep up with the homework for each class because the homework is a bit too much.” (Student 7)

“Obviously, one of the negative aspects was that the homework was not too much, but that it was challenging. But getting feedback and rearranging the assignment has been one of its positive aspects.” (Student 53)

One of the students presented the lack of internet among the issues that obstruct the emergency remote teaching process. Whether or not students have internet access individually is a factor that personally affects the emergency remote teaching process. 15 of the students (25%) shared that the lack of a suitable environment to attend live course sessions is among the components that negatively affect the process. Thus, the problems students experience in the environment in which they attend the course or in the situation of accessing the internet can be an obstacle to their participation in the remote education process.

In addition to these, one student noted issues where insufficient information was given by the instructor during the emergency remote teaching process, including late notification of the course time, insufficient explanations of some homework, and not sharing recorded lecture videos after the course.

COMPARATIVE OPINIONS OF STUDENTS ON PRE-PANDEMIC FACE-TO-FACE EDUCATION AND PANDEMIC PERIOD EMERGENCY REMOTE TEACHING EXPERIENCES

In this study, students were requested to compare their experiences in the emergency remote teaching process and their previous face-to-face education process in the context of the course contents, lectures, and live lessons. The findings for the comparisons of the students are presented in Table 4.

Table 4. Comparative Opinions of Students on Pre-Pandemic Face-to-Face Education and Pandemic Period Emergency Remote Teaching Experiences

	Strongly disagree (1)		Disagree (2)		Partially agree (3)		Agree (4)		Strongly disagree (5)		Mean
	N	%	N	%	N	%	N	%	N	%	\bar{X}
I do not think there is a difference between the course content provided in face-to-face courses and the emergency remote teaching process.	6	10	7	11.7	17	28.3	14	23.3	16	26.7	3.45
I do not think that there is a difference between the lectures in face-to-face lessons and the lectures in live lessons during the emergency remote teaching process that makes it difficult for me to understand the lesson.	10	16.7	13	21.7	13	21.7	10	16.7	14	23.3	3.08
I do not think there is a difference between attending face-to-face classes and attending live classes in the emergency remote teaching.	24	40	10	16.7	11	18.3	8	13.3	7	11.7	2.40
I feel more comfortable in face-to-face lessons compared to live lessons in the emergency remote teaching.	6	10	10	16.7	14	23.3	8	13.3	22	36.7	3.50
I feel more comfortable participating in the interaction in face-to-face classes.	6	10	6	10	16	26.7	12	20	20	33.3	3.56

While 50% of the students stated that they do not think there is a difference between the course content provided in face-to-face courses and the emergency remote teaching process, 28.3% partially supported this opinion. Moreover, students were asked to evaluate the course content within the scope of all materials that support the lecture, such as presentations and pdf documents. It was found out that only 21.7% of the students thought there was a difference between the content provided in face-to-face courses and the emergency remote teaching process (See Table 4).

The students were also asked to compare the live lessons in the emergency remote teaching process with the lectures in the face-to-face lessons. It was discovered that 40% of the students do not think there is a difference between the lectures in face-to-face lessons and the lectures in live lessons during the emergency remote teaching process, making it difficult to understand the lesson. 21.7% of the students partially supported this opinion. On the other hand, 38.4% of them did not support this opinion and claimed that there is a difference between the lectures in face-to-face lessons and the lectures in live lessons during the emergency remote teaching process, which makes it difficult to understand the lesson (See Table 4).

On the other hand, 25% of the students do not think there is a difference between attending face-to-face classes and participating in live lessons in the emergency remote teaching, while 18.3% partially supported this opinion. It was seen that 56.7% of the students thought that there was a difference between attending face-to-face classes and participating in live lessons in emergency remote teaching (See Table 4).

Finally, the students were expected to compare their state of being comfortable while participating in face-to-face lessons and the lessons in the emergency remote teaching process and while participating in the interaction. It was indicated that 50% of the students felt more comfortable in face-to-face lessons compared to live lessons in the emergency remote teaching. On the other hand, 23.3% of the students partially agreed with this opinion, while 26.7% disagreed with it. However, 53.3% of the students emphasized that they felt more comfortable participating in the interaction in face-to-face lessons. While 26.7% of the students partially agreed with this opinion, 20% disagreed with this opinion (See Table 4).

Consequently, these findings deduce that students feel more comfortable in face-to-face lessons, although there is not a huge difference when comparing the course contents or lectures provided in the emergency remote teaching process to face-to-face lessons.

STUDENTS' PREFERENCES AND OPINIONS ON DISTANCE EDUCATION AFTER THE EMERGENCY REMOTE TEACHING EXPERIENCES

In this study, students were also inquired about their preferences and opinions about distance education after their emergency remote teaching experiences during the pandemic. Firstly, the students' opinions about participating in the distance education experience in the future within the framework of their current experiences are given in Table 5.

Table 5. Students' Preferences for Distance Education After Their Emergency Remote Teaching Experiences

	Strongly disagree (1)		Disagree (2)		Partially agree (3)		Agree (4)		Strongly disagree (5)		Mean \bar{X}
	N	%	N	%	N	%	N	%	N	%	
I may prefer to continue my university education with distance education after the emergency remote teaching experience.	22	36.7	1	18.3	8	13.3	7	11.7	12	20	2.60
I may prefer to continue some courses with distance education during my university education after the emergency remote teaching experience.	2	20	8	13.4	12	20	14	23.3	14	23.3	3.16
I would prefer to attend a course given by distance education method on any subject after the emergency remote teaching experience.	2	20	4	6.7	19	31.7	12	20	13	21.7	3.16
I think that I can learn in the courses given by the emergency remote teaching.	5	8.3	4	6.7	11	18.3	24	40	16	26.7	3.70
I would rather take face-to-face exams than take online exams.	7	11.7	9	15	16	26.7	8	13.3	20	33.3	3.42

Table 5 indicates that while 31.7% of the students stated that they would prefer to continue their university education with distance education experience after their emergency remote teaching experience, 13.3% partially agreed with this opinion, and 55% of the students did not support this opinion. According to the mean score ($\bar{X} = 2.60$) given to this item, it can be suggested that the majority of the students do not prefer to continue their university education entirely with distance education (See Table 5). On the other hand, 46.6% of the students reported that they might prefer to continue some courses with distance education during their university education after their emergency remote teaching experience. 20% of the students stated that they partially agreed with this opinion, while 33.4% did not support it (See Table 5). The mean score ($\bar{X} = 3.16$) given to this item demonstrates that some students prefer to continue some courses with distance education. This data also suggests that students may prefer to attend some of their courses online, even if not completely distance education. Besides, 41.7% of the students asserted that they would prefer to participate in an education given by distance education method on any subject after their emergency remote teaching experience (See Table 5). Thus, after the experience, it was seen that some of the students could show interest in different courses conducted with distance education. Furthermore, 66.7% of the students stated that they thought they could learn in the courses given by distance education. While 18.3% of the students partially supported this opinion, only 15% opposed this opinion. Considering the students' preferences for the exam, it was seen that 46.6% of them preferred to participate in the face-to-face exams instead of taking the online exams. While 26.7% of the students partially agreed with this opinion, 26.7% did not agree and added that their preference was for online exams.

In addition to these, students were also asked about their preferences for the use of cameras in live lesson sessions after their experience in the emergency remote teaching process. Data on camera usage preferences in live lesson sessions are presented in Table 6.

Table 6. Students' Preferences for Live Lesson Sessions and Exams After The Emergency Remote Teaching Experience

	Strongly disagree (1)		Disagree (2)		Partially agree (3)		Agree (4)		Strongly disagree (5)		Mean
	N	%	N	%	N	%	N	%	N	%	\bar{X}
I'd prefer the instructor to turn on the camera in live lesson sessions in distance education.	5	8.3	4	6.7	19	31.7	9	15	23	38.3	3.68
I'd prefer my fellow students to turn on the camera in live lesson sessions in distance education.	19	31.7	12	20	21	35	2	3.3	6	10	2.40
I'd prefer to attend live lesson sessions in distance education by turning on my camera.	25	41.7	10	16.7	14	23.3	3	5	8	13.3	2.32

53.3% of the students reported that they preferred the instructor to turn on the camera in the live lesson sessions in distance education. While 31.7% of the students partially agreed with this opinion, only 9% disagreed (See Table 6). In the course recordings kept by the researcher and in the observation notes, it was seen that the student interaction was higher in the courses where the instructor's camera was on. On the other hand, only 13.3% of the students expressed that they preferred other students to turn on their cameras in the live lesson sessions in distance education. While 35% of the students partially supported this opinion, 51.7% stated that they did not prefer their other friends to turn on their cameras (See Table 6). Regarding the students' preference whether or not to turn on their own cameras, only 18.3% of the students said that they preferred to attend the live lesson sessions with the camera on. While 23.3% of the students partially agreed with this opinion, 58.4% disagreed (See Table 6). Thus, while students prefer the instructor to turn on their camera in live lesson sessions, they do not prefer their friends or their own cameras to be turned on. In the course recordings created by the researcher, it was observed that only one student in two courses each turned on the camera, while the rest of the students did not. Additionally, in the

observation notes, the reasons why the students did not turn on the camera in the live lesson sessions were related to the reasons such as not being in a suitable environment at home, being connected from the phone, and being connected from the workplace.

4 | DISCUSSION & CONCLUSION

During the pandemic in the world, face-to-face education in higher education institutions was carried out in online environments with the opportunities provided by distance education tools. This process is expressed as the emergency remote teaching experience for both instructors and students. The effects of the emergency remote teaching experiences after the pandemic in the current education world are discussed. While examining these effects, the students' opinions and perspectives, one of the biggest stakeholders in the process, are vital. Hence, this study analyzes the transition process to the emergency remote teaching through the opinions of Information Technologies pre-service teachers who continue their education in the Department of Computer and Instructional Technologies at Ondokuz Mayıs University Faculty of Education during the COVID-19 pandemic. Thus, by evaluating the important components that contribute to the emergency remote teaching experience and the issues that obstruct the process, suggestions are presented to higher education institutions for similar situations that may be experienced.

Distance education provides learners the flexibility of time and space. In traditional education, the face-to-face interaction established by the learning and teaching parties in physical classrooms is realized through technology in distance education. Therefore, interaction is one of the most prominent issues in distance education. Moore (1989) examines interaction in distance education under three headings: (1) learner-learner, (2) learner-teacher, and (3) learner-content. In this study, it is seen that student choices for the issues that support the emergency remote teaching process highlight these interaction types. To this end, 58.3% of the students emphasized getting regular and quick feedback from the instructor. Similarly, 58.3% of the students emphasized the importance of live lessons in the emergency remote teaching, where they can interact with both other learners and the instructor. Besides, 50% of the students mentioned the asynchronous content provided by instructor, which implies the importance of learner-content interaction. Moreover, the students claimed that associating the provided asynchronous content with supportive activities is a key factor in attendance and monitoring of the course process. This situation reveals that learner and content interaction should be supported with appropriate learning activities. Thus, the design for the interaction of students with other learners, instructors, and the content provided in distance education can be expressed as one of the crucial points that will support the distance education process.

One of the most important issues for students in the emergency remote teaching process was organization. Under this topic, regular feedback from the lecturer, regular announcements, timely announcements of activities such as homework, and live lessons routinely taking place every week and at the same time are noteworthy items. In addition to these, regular and continuous use of the class board by the instructor, regular meetings with the students, following the course syllabus, and clarity are also placed under the organization component. Likewise, the level of student motivation increases with a regular and timely lesson plan and regular and on-time feedback from the instructor (Xiao & He, 2020).

Higher education institutions must have the necessary ICT infrastructure for an effective transition to distance education (Ali, 2020; IAU, 2020), but the ICT infrastructure alone is not sufficient for a successful teaching process. In the distance education process, the readiness of the instructors and students should also be understood, and the necessary support should be provided accordingly (Ali, 2020). Instructors with high readiness levels and previous distance education experience show a significant difference in course design, communication, and time management during the pandemic process (Bolliger & Halupa, 2021). The training that the instructors have attended before or their competencies in distance education enables them to start the process more confidently. Also, instructors with high self-confidence are more open to support their adaptation to the emergency remote teaching process (Bolliger & Halupa, 2021). On the other hand, instructors with low self-confidence in distance education generally find the support provided insufficient (Scherer et al., 2021). In this study, the instructor's competencies in distance education were mentioned among the issues that support the process in the emergency remote teaching, as well.

Along with these, the adaptation of distance education environments is not only a technical issue but also a pedagogical and instructional element (Ali, 2020). It is different from the fact that the instructors know how to use an online tool and utilize this tool skillfully in their lessons (Xiao & He, 2020). Although instructors need to be able to use an online tool, it is emphasized that there will be problems in the effectiveness of the course if they cannot use it in their lessons and integrate it into their lessons (Xiao & He, 2020). In this study, the methods used by the instructor, the management of the live lesson, and the materials provided were among the other vital components that supported the emergency remote teaching process. In similar studies in the literature on the effectiveness of the emergency remote teaching process, sharing of appropriate learning materials, the competence of the instructor, the teaching methods used (Sharma et al., 2021), live lessons, simultaneous communication (Gaba et al., 2021; Xiao & He, 2020), the instructor's skillful use of online tools and the effective integration of online tools into lessons (Xiao & He, 2020) are regarded as prominent points in the effectiveness of the process. Previous studies in the literature suggest that academic disciplines contain different instructional practices and beliefs about how students learn; therefore, it is necessary to conduct studies on the pedagogical approaches of instructors in the process of transition to distance education (Scherer et al., 2021).

In the emergency remote teaching process, students highlight problems such as deficiency of face-to-face interaction, technical problems, course load, homework, and deficiency of motivation. In many studies, technical problems are seen as a crucial problem experienced by students (Xiao & He, 2020; IAU, 2020; Sharma et al., 2021). Additionally, a different course load from the face-to-face education process in the emergency remote teaching process is also expressed among the changes and difficulties experienced by the students (Elfirdoussi et al., 2020). During the pandemic, most students experienced mental problems such as depression and anxiety disorder beyond educational problems (Islam et al., 2020; Rotas & Cahapay, 2020; Son et al., 2020). Conditions such as the sudden interruption of face-to-face education during the pandemic process, the fact that students have to continue their education from distance education environments in a way they are not used to, problems with computer and internet access to attend live lesson sessions, the absence of suitable environment for participation in live lesson sessions in the environment where students live, and the emergence of health problems of themselves or their family members also affected students' stress and anxiety. While these problems decrease student motivation, they also negatively affect the learning process. Strong motivation is among the important components that support the students' learning process (Simonson et al., 2008). In this study, 36.7% of the students stated the lack of motivation among the components that obstruct the emergency remote teaching process. Besides, the instructor's approach to the students, the one-to-one communication, and interviews with the students are among the essential components that support the emergency remote teaching process. The students expressed that the one-to-one interviews with the instructor and the instructor's approach throughout the process motivated them. Thus, the positive approach and support of the instructor are significant for the students to overcome the lack of motivation they experience in this process and adapt to the process.

In order for students to re-participate in an educational process, it is a must that they benefit from the process they participated in and that their motivation is high (Alsabawy et al., 2016). This study examined students' perspectives on new distance education experiences after their current emergency remote teaching experiences. Although most students do not prefer to continue their education completely distant, some students prefer to continue some courses online. This shows that some courses in higher education can be encouraged to be taught blended. Despite the shortcomings and difficulties in the emergency remote teaching process in the literature, it is suggested that higher education institutions should continue with innovative studies under the influence of positive online experiences (Bozkurt, 2020; Cirlan & Loukkola, 2021; Nworie, 2021) and that a new blended model could take place in the future of the education world. (Li & Lalani, 2020). To this end, it was observed that most of the students thought that they could realize learning in the courses they attended during the emergency remote teaching process. This finding shows that with a well-managed process, students receive contributions from the education they attend.

This study revealed that students feel more comfortable in face-to-face lessons, although there is no high difference when comparing the course contents or lectures provided in the emergency remote teaching process to face-to-face lessons. A previous study reported that most students think that distance education is not as effective as face-to-face education (Keskin & Özer-Kaya, 2020). Nevertheless, this study found out that although the students thought that they contributed to the process and that there was no difference between the lecture and the

content of the course, they preferred face-to-face education for the future. Similarly, it was observed that the preferences of the students in the exams were in line with the face-to-face exams. Besides, there is an emphasis on similarity with face-to-face lessons among the positive features that the students listed for the lessons. This can be expressed as the desire of students to continue their current habits.

As a result of the study, students need qualifications such as organization, interaction, regular feedback from the instructor, regular announcement, live lessons, the quality of synchronous content, supporting the learning process with asynchronous activities, continuous communication, the use of effective instructional methods, the competence of the instructor, the approach of the instructor, and having similar features to face-to-face lessons in the emergency remote teaching experience. Besides, the lack of face-to-face interaction, technical problems, unusual online exams, and excessive assignments were the issues that forced students into the emergency remote teaching process.

SUGGESTIONS

In line with these results obtained from the study, the following suggestions are made regarding the teaching process that should be planned in a similar situation, based on the experiences in the emergency remote teaching process:

- Interaction in distance education should be supported in three ways. The interaction between the learner and the teacher should be assisted both with live lessons that offer the opportunity to meet synchronously and with asynchronous communication opportunities. Interaction between learners should also be supported by collaborative activities to be held both during and after live lessons. In this regard, it can be ensured that online tools where students can meet and work can be included in the activities. Finally, students should plan activities/assignments in which they will use course materials and contents, and they should be guided on how to benefit from these materials.
- To support the students' motivation and facilitate adaptation, they should be prevented from being alone in the system. For this, regular live lessons should be organized, and students should be encouraged to communicate with other students and instructors during these lessons. Moreover, apart from the live lessons, the instructors should provide instant feedback to the student through the system. The virtual lesson area should be used actively, and the student should be informed about the process regularly.
- Students are looking for organization in distance courses. For this reason, they should be informed regularly and continuously at the beginning of the lesson and throughout the lesson. It is important that live lessons are regularly planned on the same days and hours, students are informed in detail before responsibilities such as homework, and communication channels such as the class board in the virtual lesson area are used actively and routinely. Students should know how to benefit from the shared content, their responsibilities in the course process, the deadline they need to complete activities such as homework, and how they can communicate with the instructor.
- The readiness of the instructors is a must in the transition to distance education. Instructors should also benefit from the opportunities offered by technology in their face-to-face lessons. Additionally, teaching staff in higher education institutions should gain competencies to continue the education and teaching process with alternative methods and technologies. Thus, the continuity of the education and teaching process with alternative tools and methods in cases like the transition to emergency remote teaching can be ensured.

In addition to these suggestions, higher education institutions should enrich their teaching processes with alternative methods provided by technology. The flexibility provided by distance education should be included in face-to-face teaching environments, and learning environments enriched with blended learning should be designed. Consequently, in situations like the pandemic process experienced, the adaptation of higher education institutions, instructors, and students to the process could be more comfortable and trouble-free.

STATEMENTS OF PUBLICATION ETHICS

The study received ethical approval from the Ethics Committee of Social Sciences and Humanities of Ondokuz Mayıs University (date: 23 September 2020 and number: 2020/554).

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